COMPARISON OF INVOLUTIONAL CHANGES ON MAXILLA AND MANDIBLE

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Key words: *maxilla, mandible, alveolar process, teeth loss, involutional changes*

Background. Dimensions and shape of maxilla and mandible are highly influenced by the presence of teeth and force produced by masticatory muscles. As a consequence both dimensions and shape might change with aging.

Aim. Our goal was to compare the extent of these changes between maxilla and mandible.

Material and Methods. We examined 169 maxillae and 42 mandibles (age range 20–80 years) using digital caliper. There were 14 measures on maxilla and 11 measures on mandible. Measures were labeled as vertical, horizontal or sagittal in order to study growth in three dimensions. Bones were divided into three groups based on presence of teeth and alveolar process: group 1 — completely preserved teeth and alveolar process; group 2 — partialy preserved teeth or alveolar process; group 3 — all teeth lost and alveolar process completely resorbed.

Results and Discussion. In both maxilla and mandible only vertical measures showed significant change with aging. On the maxilla all vertical measures in group 3 decreased when compared to group 1. Decrease ranged from 8% to 17%. Group 2 didn't show significant changes when compared to group 1. On the other hand on mandible only those vertical measures containg alveolar process component decreased. Decrease was significant in both group 2 (ranging from 4.5 and 20%) and group 3 (ranging from 22.5 and 59%).

Conclusions. Teeth loss causes vertical dimensions regression on both maxilla and mandible, whereas change of masticatory muscles function with aging plays minor role. The impact of teeth loss is more profound on mandible than on maxilla.

MORPHOMETRIC CHARACTERISTICS OF HUMAN RENAL HILUM

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Key words: *renal hilum length, renal hilum width, renal hilum*

Background. Further study of anatomy, topographic and morphometric characteristics of the kidneys and their blood vessels is relevant for clinical practice. As a rule, these data are taken into account in modern diagnostic studies, in kidney angioplasty, organ transplantation and correction of congenital anomalies.

Aim. To determine morphometric characteristics of human renal hilum.

Material and Methods. There were investigated 42 left and 42 right kidneys of adult male and female. The cause of these people death were not urinary system diseases. The gate of the kidney was measured by a caliper.

Results and Discussion. The length of men's right and left renal hilums varied from 2.5 to 5.0 cm. The average length of left renal hila was 3.54 cm, right — 3.31. The length of left women renal hila was from 3.2 to 5.1 cm (M=3.89 cm), right hila — from 2.6 to 5.0 cm (M=3.43 cm). The widths of men's left renal hila varied from 1.5 to 2.5 cm (M=2.09 cm), right renal hilum — from 1.5 to 3.2 cm (M=1.98 cm). In women width of left renal hila was from 1.9 to 2.6 cm (M=2.49 cm), right — from 1.5 to 3.0 cm (M=2.0 cm).

Conclusions. According to the research data lengths and widths of female renal hila are more variable than male.

JOINT EVIDENCE OF CONNECTIVE TISSUE DYSPLASIA

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Key words: *connective tissue dysplasia, joint, hypermobility, syndrome, Beighton score*

Background. Joint hypermobility syndrome rate higher than normal anatomical parameters is the indicator of connective tissue dysplasia (CTD).

Aim. During this research we reviewed the prevalence of joint hypermobility syndrome (JHS) using Beighton score.

Material and Methods. Beighton score rate of 1346 young people aged 17–27 (322 men, 1024 women) was studied. The women rate of score exceeds statistically significant indices of the same of men. The exception is the capacity of both sides knee joint hyperextension which did not have significant gender differences ($p>0.15$).

Results and Discussion. Taking into account that the indices from 0 to 2 scores under Beighton scale are the normal ones, one may say that normal scores are presented in more than a half of male students (53%) and one third of female students (33%) of general medicine department. Slight hypermobility (3–4 scores) is observed in 20% of men and 29% of women in the research population. Mild hypermobility (5–8 scores) is evidenced in 24 and 33%,

and generalized hypermobility in 2% of men and 4% of women.

Conclusions. Analyzing slight and generalized hypermobility as predictor of connective tissue dysplasia, one can talk of underlying risk for development of the latter in 26% and 37% of young men and women.

STRATEGIES FOR TEACHING/LEARNING HUMAN ANATOMY AT THE FACULTY OF PHARMACY OF THE UNIVERSITY OF LISBON

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Key words: *human Anatomy; teaching/learning activities; soft skills; specific competences*

Aim. To present the strategies used at the Faculty of Pharmacy, University of Lisbon, for Human Anatomy teaching/learning to the ~250 students admitted/year in the Pharmaceutical Sciences Integrated Master.

Material and Methods. The course, with 5 ECTS, is organized in theoretical (2 h/week), practical (1.5 h/week) and tutorial (1 h/week) classes. The theoretical concepts about the body systems are provided in teacher-centered, expositive, theoretical classes. In contrast, the practical classes are students-centered aiming at the consolidation of the concepts through oral presentations by students. These classes also promote team work and the ability to search, select and organize information, thus favoring the development of soft skills besides specific competences in Anatomy. To promote the continuous knowledge acquisition and guarantee a reliable and fair assessment, students perform individual written tests. The performance of the students along the oral presentations and the tests is translated into a practical classification. There is a final examination with 75 multiple-choice questions. The curricular unit global mark results from the practical evaluation (30%) and the final examination (70%).

Results and Discussion. course assessment relies in questionnaires anonymous fulfilled by students, which showed a high level of satisfaction with the teaching/learning approaches. They also showed the students' recognition of the importance of the continuous and integrated work for the consolidation of the concepts, as well as the importance of the knowledge acquired in the course of Human Anatomy for the graduation in Pharmaceutical Sciences.

Conclusions. the teaching activities relying in the use of modern educational techniques contributed to the successful learning of Human Anatomy.

MORPHOLOGICAL FEATURES AND CLINICAL SIGNIFICANCE OF THE POSTERIOR CEREBRAL ARTERY

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Key words: *posterior cerebral artery, segments of the posterior cerebral artery, clinical importance*

Background. Posterior cerebral artery (PCA), arises in the bifurcation of the basilar artery and supplies blood to the back of the cerebral hemisphere. This artery provides branches for thalamus, mesencephalon and other deep brain structures.

Aim. The purpose of the study is to describe the path of the PCA, its length and diameter.

Material and Methods. The study analyzed the brain of 25 bodies (50 PCA preparations). The usual techniques of autopsy have been used to extract the brain from the skull. Extracted brain, we put it in physiological solution, while both posterior communicating arteries are connected at level of their union with internal carotis artery. In the vertebrobasilar arterial system we injected 5% mixed gelatin and India ink. The brain has fixed with 10% formaldehyde and glycerol solution for 30 days, after solidifying gelatin in cold water.

Results and Discussion. The length of P1 segment was averaged 7.5 mm (5–15 mm), and the diameter was 2.2 mm (0.5–3.5 mm). The P2 segment was split into the anterior (P2A) and posterior (P2P) segments. The length of the P2A segment was averaged 22.5 mm (15–30 mm), and the diameter was 1.5 mm (1–3 mm). The length of the P2P segment was averaged 15.8 mm (8–25 mm), while the average diameter was 1.3 mm (0.8–2 mm). The length of segment P3 was on average 20.1 mm (8–31 mm), while the diameter was 1.2 mm (0.5–1.5 mm).

Conclusions. The clinical importance of PCA morphology will serve neurosurgeons in microsurgical interventions; neurological doctors in the diagnosis of PCA occlusive diseases and radiologists in the angiographic detection of pathologies of this artery.